

Some Comments on Victorian Landhoppers

BY R. D. SANDELL*

Editor's Note: The FNCV Field Survey Group suspended formal Group activities in July 1976, due to the fall-off in attendance at meetings and camps. The Group was involved in taxonomic and distribution studies of Victoria's invertebrate fauna. The studies were very rewarding to those concerned, and an on-going project is the publication of introductory articles of invertebrate groups that members have specialised in. This is the first of those articles.

Introduction

A common but not well-known inhabitant of the leaf litter of Victoria's wetter forests is the land amphipod or landhopper. Landhoppers are small laterally flattened crustaceans, usually less than 15 mm long, which are quickly recognised by their habit of jumping away and burrowing when disturbed from under a stone or fallen log.

Although closely related, land amphipods and beach amphipods (sandhoppers) comprise two distinct sets of species. This is contrary to the widely-held opinion that so-called "terrestrial" amphipods are seashore species that have strayed inland.

Taxonomy

All truly terrestrial amphipods belong to the Talitridae, the family in which most beach amphipods are grouped. This is indicative of the minor nature of morphological changes evolved by amphipods in colonising forests from the seashore zone (Hurley 1959, 1968). Seven land amphipod species are known from Victoria and of these only two, *Talitrus sylvaticus* Haswell and *Talitrus kershawi* Sayce, have been described (Sayce 1909). There is a lot of room for further taxonomic research into the group in Australia, including a need for revision at the generic level.

Distribution and Habitat

Land amphipods appear to be con-

finned in Victoria to southern and north-eastern parts, but I would be happy to be proved wrong by country members on this point. Their apparent absence elsewhere in the State is probably due to insufficient rainfall.

In most areas, species are distributed sympatrically but it is normal for one to predominate. For example, *T. kershawi* is the dominant amphipod species of the wet forests of West and South Gippsland and the Otway Ranges. It is rarely found elsewhere.

The habitat types in which land amphipods are most plentiful are wet open forest, such as *Eucalyptus delegatensis* tall open forest and *E. regnans* tall open forest, and the patches of closed forest of the Otway Ranges and parts of eastern Victoria. In these forests, amphipods are a conspicuous component of the leaf litter fauna, although other micro-habitats, such as treefern heads, fern fronds and tree trunks, are frequently selected by some species. They are also abundant under fallen logs in *E. pauciflora* woodland in sub-alpine areas.

Amphipods are much less common in dry open forest, although in wet years the soil surface under logs is often a fruitful collecting site. Tree cover is normally needed to moderate temperatures and to preserve moisture under logs and litter, but specimens of

*FNCV Field Survey Group,
39 Rubens Grove, Canterbury, 3126.

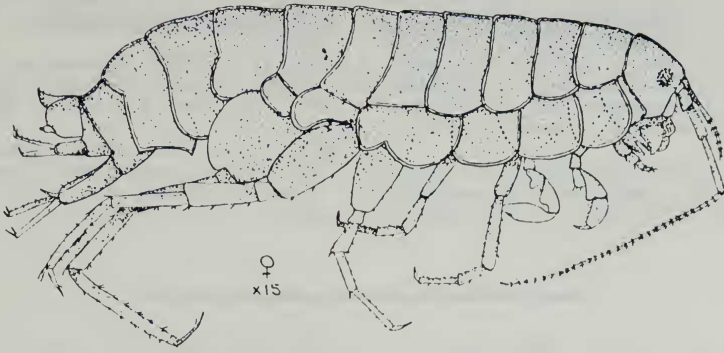


Fig. 1. *Talitrus kershawi* (after Sayce).

T. sylvaticus have been found, after heavy rain, in grassland near Foster. More surprising was the presence of an undescribed amphipod species under large stones in dry grassland west of Cavendish (average annual rainfall: 660 mm) in the middle of a dry summer.

Ecology

Land amphipods feed on dead leaves. Published ecological research on the group is scarce compared with other soil arthropods, but two fine energetics studies in Australia by Clark (1954) and Friend (1975), show that the biomass of amphipod populations in wet forests is significant. Clark estimated that a *T. sylvaticus* population at a study plot in temperate rainforest near Sydney NSW, consumed 24 per cent of total leaf litter fall — a very high figure indeed. Friend (pers. comm.) believes this is an overestimate, but his own estimate of 5.7 per cent consumption by a *T. tasmaniae* Ruffo population at Mt. Wellington, Tasmania, does not belie the group's importance. Little is known of the role played by amphipods in litter decomposition processes or their effect, if any, on nutrient cycles.

General Remarks

An understanding of the working of forest ecosystems requires a knowledge of the systematics and ecology of soil

organisms. In Australia, where knowledge in this area is very incomplete, research priorities must be established (Dwyer, 1976). The study of litter disintegration surely has priority, and groups which seem to play an important part in this process, such as land amphipods, should receive more attention from Australian biologists and field naturalists.

Acknowledgements

I wish to thank Dr E. L. Bousfield of the National Museum of Natural Sciences, Ottawa, for invaluable assistance and encouragement over several years. Members of the FNCV Field Survey Group, notably Messrs L. Winsor, A. J. Brook and M. Howes, aroused my interest and have given support and advice. Mr J. A. Friend of the University of Tasmania kindly allowed me to mention some of his unpublished research results. Mr W. F. Seed of RMIT read the manuscript and made many helpful suggestions.

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The Origin of Generic Names of the Victorian Flora Part 2 – Latin, Greek and Miscellaneous

(Continued from page 30 in the previous issue)

BY JAMES A. BAINES

Oxalis. Name in Nicander (2nd Century B.C. Gk physician, author of an extant poem 'Alexipharmaca' on antidotes for poisons) for *Rumex acetosella*, Sheep Sorrel (from oxys, acid, sour, sharp). Victoria has two native species and six introduced, most known as different kinds of wood-sorrel, but **O. pes-caprae* (the specific name of which means goat's-foot) is Soursob (not to be confused with Soursop, which is the fruit of the West Indian tree, *Anona muricata*, or Prickly Custard-apple). **O. corymbosa*, Pink Shamrock, is one of the plants known as shamrocks because of the shape and arrangement of the leaves; the Irish Shamrock being *Trifolium minus* (Irish seamrog = trefoil or clover), the plant worn as an emblem on St. Patrick's Day because adopted nationally by Ireland as symbolizing the Trinity. The genus *Oxalis* gives its name to family Oxalidaceae.

Oxylobium. Gk oxys, sharp; lobos, pod; because the pods have a sharp appendage. Victoria's five species are known as different kinds of shaggy-pea, but Gardner and Bennetts in 'The Toxic Plants of Western Australia' list six species as Roe's, Granite, Net-leaved, Box, and Slender Poisons, and

the oddly named Brother-brother (*O. tetragonophyllum*). The West Australian species *O. lanceolatum* grows spontaneously at Langwarrin, Vic., along with *Acacia saligna*, W.A.'s Golden Wreath Wattle, both having found a congenial environment there.

Ozothamnus. Gk ozo, to smell; thamos, shrub; many of the species being fragrant or at least noticeable to the olfactory senses. This is a superseded name for many of our species of *Helichrysum*, and appears frequently in botanical reports in early issues of the 'Victorian Naturalist'. The generic name was established by Robert Brown.

Pachycornia. Gk pachys, thick; Lat cornu, horn; name formed by Sir Joseph Hooker (son of Sir William) on the basis of differences from the related chenopodiaceous genus *Salicornia* (Lat sal, salt; the branches are horn-shaped and taste of salt). Victoria has two species of both genera, all four known as different kinds of glasswort, so-called because species of *Salicornia* were formerly used in glass-making as they contain much alkali.

(To be continued)